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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/735,592	12/12/2000	Michael Wayne Brown	AUS9-2000-0720-US1	8578
35525	7590	02/09/2005	EXAMINER	
IBM CORP (YA) C/O YEE & ASSOCIATES PC P.O. BOX 802333 DALLAS, TX 75380			ALI, SYED J	
			ART UNIT	PAPER NUMBER
			2127	

DATE MAILED: 02/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/735,592

Applicant(s)

BROWN ET AL.

Examiner

Syed J Ali

Art Unit

2127

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 2127

DETAILED ACTION

1. This office action is in response to the amendment filed October 7, 2004. Claims 1-22 are presented for examination.

2. The text of those sections of Title 35, U.S. code not included in this office action can be found in a prior office action.

Claim Objections

3. **Claims 6, 15, and 22 are objected to because of the following informalities:**

a. Claims 6, 15, and 22 refer to checking for a “third” keyword and executing statements in a “third” thread. As there is no “second” keyword or “second” thread in the claims or any intervening claims, the claims should either be amended to recite a “second” keyword and “second” thread or to depend from claims 5, 14, and 21, respectively. Appropriate correction is required.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. **Claims 10-12 and 14-18 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.**

Art Unit: 2127

6. As per claims 10 and 17, an apparatus is claimed without any recited hardware as part of the apparatus. The apparatus is not tangibly embodied, as the entirety of the claimed apparatus may be implemented in software. Claims 11-12, 14-16, and 18 are rejected for at least the same reasons as presented for their parent claims, as they fail to present any limitations that resolve the deficiencies of the claims from which they depend.

Claim Rejections - 35 USC §102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

8. **Claims 1-7, 9-17, and 19-22 are rejected under 35 U.S.C. 102(a) as being anticipated by Bonachea (“Bulk File I/O Extensions to Java”).**

9. As per claims 1-4, Bonachea teaches the invention as claimed, including a method for asynchronous execution within a program, comprising:

executing code in a first thread (§4.2);

determining whether a first keyword exists in the code, the first keyword indicating a code element that may be executed out of order (§§4.1.1 - 4.1.3);

executing the code element in a second thread (§4.1.2), wherein the first thread is executed on a first processor and the second thread is executed on a second processor (§2.2); and

wherein the code element is one of an instruction, block, and a method (Fig. 2) and the first keyword exists in a definition of a method (Fig. 5).

10. As per claims 5-6, Bonachea teaches the invention as claimed, including the method of claim 1, further comprising:

determining whether a second keyword exists in the code, the second keyword indicating that execution of the code element in the second thread must complete before the next code element is executed (§4.1.3);

executing the next code element in the first thread after execution of the code element in the second thread completes (§4.1.3);

determining whether a third keyword exists in the code element, the third keyword indicating a statement that may be executed out of order (§§4.1.1 - 4.1.3); and

executing the statement in a third thread (§4.1.2).

11. As per claims 7 and 9, Bonachea teaches the invention as claimed, including the method of claim 1, wherein the method is executed by an interpreter (§2.2) and the second thread is a lightweight thread (§4.1.2).

12. As per claims 10-15 and 16, Bonachea teaches the invention as claimed, including an apparatus for performing the method of claims 1-6 and 9, respectively (§2.2).

Art Unit: 2127

13. As per claim 17, Bonachea teaches the invention as claimed, including an apparatus for asynchronous execution within a program, comprising:

an interpreter (§2.2); and

a program, the program including a first keyword indicating a code element that may be executed out of order (§§4.1.1 - 4.1.3), wherein upon detecting the keyword, a light weight thread is created (§4.1.2) and executes the code element in the light weight thread (§4.1.2).

14. As per claims 19 and 20-22, Bonachea teaches the invention as claimed, including a computer program product, a computer readable medium for performing the method of claims 1 and 4-7, respectively (§2.2).

Claim Rejections - 35 USC § 103

15. **Claims 8 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bonachea.**

16. As per claim 8, Bonachea does not teach the interpreter being a Java virtual machine. Bonachea implements the Java extensions in Titanium, which is actually a dialect of Java and does not utilize a JVM (Abstract; §2.2). Titanium was developed exclusively at the University of California at Berkeley and functions as a superset of Java. The language extensions defined by Bonachea are for the purpose of adding bulk array operations and enabling asynchronous I/O in Java. However, one of the concerns presented is the portability to other platforms besides Solaris, including those that implement Java within a virtual machine framework (§6). As such,

Art Unit: 2127

it would have been obvious to one of ordinary skill in the art to use the same language constructs on top of a Java Virtual Machine, as this would allow portability between platforms and enable concurrent asynchronous non-blocking execution.

17. As per claim 18, Bonachea teaches the invention as claimed, including an apparatus for performing the method of claim 8 (§2.2).

Conclusion

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Syed J Ali whose telephone number is (571) 272-3769. The examiner can normally be reached on Mon-Fri 8-5:30, 2nd Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai T An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Syed Ali
January 31, 2005



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SUPERVISORY PATENT EXAMINER
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